



Ø BEAT

MARCH 1985



COLORADO SPRINGS,
COLORADO

FRANK DRAKE - KL7IPV
4964 HARVEST Rd.
Colorado Springs, CO. 80917

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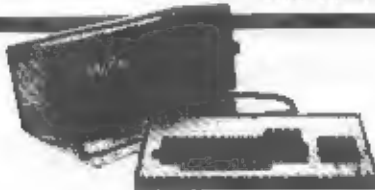
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ZERO BEAT is published monthly in the interest of the the members of the Pikes Peak Radio Amateur Association Inc., Colorado Springs, Colorado. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 10 S. Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Frank Drake KL7IPV, 4964 Harvest Rd. Colorado Springs, CO 80917 597-2406



COMPUTER CORNER

FROM THE DESK OF YE OLDE EDITOR

Well, it is that time again. I have a computer program that is from "Grid Leak", Pueblo Radio Club's newsletter. It is by KØGRC, John Atterberry. I have also inserted a word puzzle from "LEARN", Lake Erie Radio Club. Alan Higbie's article on the FT-757-GX also continues this month. The Boulder City action about antennas is published courtesy of Don Bishop, NØEA; the editor of the Denver Radio Club's newsletter "Roundtable". My thanks to all those contributors and for thinking of Zero Beat when looking for a home for some of that stuff. I went by the newest ham radio store in Colorado Springs last week. For those who don't know yet, the newest store is at Walker Electronics. I talked to Dave, WØMEY and Don, WØGOH. They have just started the store and hope that we all will go see them. I have heard many complaints from local hams that there is no place close to buy ham gear. With that, they promptly call the "800" number in some other part of the land and order what they need. Dave and Don are very willing to help and will discuss the various radios with you. Don't go to them and talk their arm off about some fancy radio with all the bells and whistles and then order from the "800" guys. Support these guys, they are there for US. last month I said that books needed for ham classes could be picked up at Centennial Electronics. Now they are also available at Walker along with antennas, tuners, etc. They are both good advertizers, and they both deserve our support. If you don't support them, don't complain if they don't stay around to fill your needs. Go see them, they're a good bunch of guys (if 2 constitutes a "bunch"). Well, that's my soap box for this month. Until next month, 73. Frank - KL7IPV

"Fox Hunting Antenna" by Ken Hunt, WA6TTY

Here are the plans for my "award winning" hidden transmitter antenna. The antenna is nicely directional and twice it has located the transmitter in about 40 minutes. Most of the mechanical parts can be purchased at your local hardware store for less than ten dollars.

This is a two element Yagi with a gamma matcher. I used salvaged elements from a damaged KLM 2m beam. The element length wasn't optimized in any way. I simply found a short piece for the driver and a longer piece for the reflector. Very scientific, huh? The dimensions I used are included on the drawing.

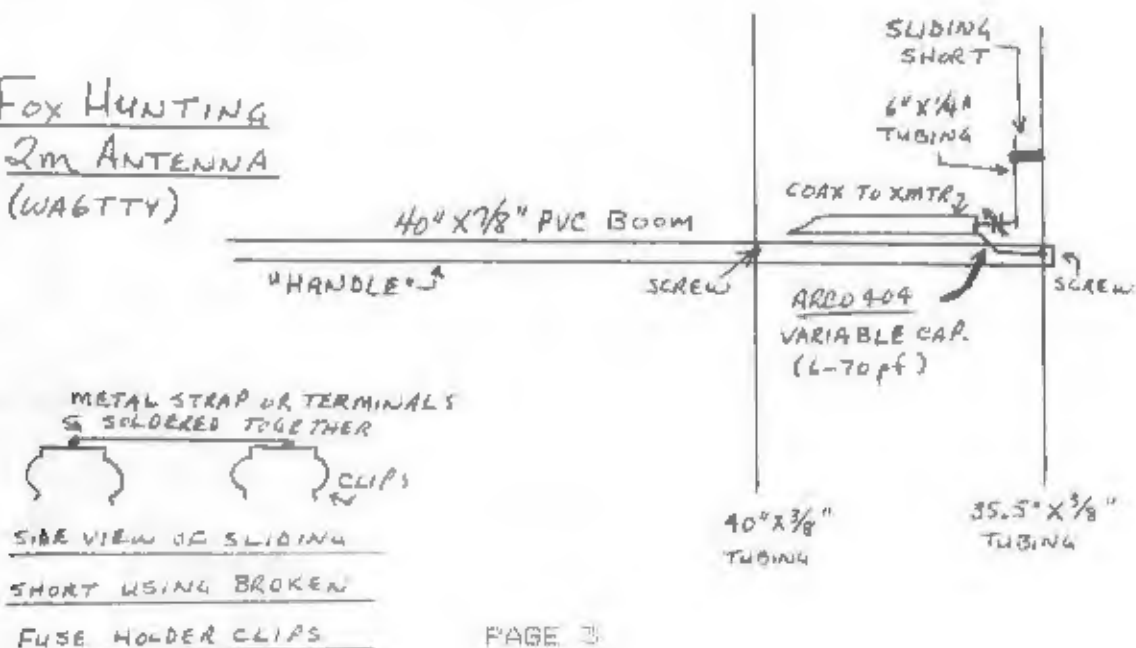
If you plan to start this project from scratch, I would suggest using a replacement broom handle and some copper or aluminum tubing. Drill holes through the broomstick to fit the tubing. Use wood screws to hold the elements in place. I used the metal clips from a surface-mount fuse holder plus some solder terminals for the sliding short on the gamma matcher.

Feel free to experiment with the dimensions or material types. I think it is satisfying to be able to make an antenna only from materials on hand. It may not win a beauty contest, but if it works, who cares?

Once the antenna is assembled, it is time to adjust the gamma match. Start with a sliding short at 5.25 inches from the center as shown. Connect the antenna through a VSWR bridge to a low-powered transmitter such as a handheld of 10W or less mobile radio. I used my basement antenna range for this test, but you may have better results outside. Point the antenna "down range" and away from metal objects, if possible. Transmit a signal and adjust the variable capacitor for minimum VSWR indication. Next try sliding the gamma match short one way. Readjust the capacitor for minimum. If the minimum point is less than before, you are sliding the short in the correct direction. Continue adjusting the short and the capacitor alternately until you achieve the ultimate minimum. I was able to get mine down to 1:1 VSWR.

You are now ready to fox hunt. The minimum required equipment will be a portable 2m radio with an "S" meter. A step attenuator would also be desirable. Refer to the Amateur Radio Handbook for a suitable design. I commonly use an attenuator with 10dB steps. The maximum attenuation ought to be 60 dB or so for best hunting close to the transmitter. Accuracy of the attenuator isn't required for this purpose, so construction techniques can be relaxed. Warm up your soldering irons and get ready for the spring fox hunting season.

Fox Hunting 2m Antenna (WA6TTY)



RAMBLINGS

FROM AROUND THE WORLD OF AMATEUR RADIO

"A BRIEF INTRODUCTION TO PACKET RADIO" is from Lake Erie Newsletter "LEARN"

This month's program will be devoted to packet radio. Since there is not a lot of packet activity in Cleveland, there may be many who are not familiar with the term. This article will attempt only to set the stage for what should be a very interesting presentation.

Radio teletype, or RTTY, has long been a popular mode of communication among Hams. With the advent of affordable personal computers, RTTY capability is now well within the reach of anyone who has even a simple two meter transceiver along with the possibility of computer program exchange, data exchange, and even computer networking.

In the course of a normal RTTY contact, only one station can transmit on a frequency at a time and, aside from roundtable discussions, each separate conversation requires a separate frequency. Furthermore, fading and interference can cause the loss of a substantial amount of information. Originally developed to meet the needs of hardwired Local Area Networks (LAN's) designed to link desktop computers, packet communications has much to offer in increasing utilization of crowded Ham frequencies (including repeater frequencies) and in overcoming the problems of interference and other losses of signals.

In the packet approach the information to be transmitted is divided into packets. Each packet contains identification of the addressee and the sender, a segment of the information being sent, an error detecting code, and synchronizing information. The packets are sent with listening intervals in between much in the manner of full-breakin CW. The receiving station checks the information received against the error code and either acknowledges the packet or requests retransmission. Although this slows the transmission

rate, no more than a single packet is lost to interference unless the band fades completely, and the receiving station can have confidence that the information received is correct.

Station receiving packets which are not addressed to them can either ignore them or retransmit them. In this way, many packet "conversations" can occupy a single frequency without interference and packet conversations can be carried on between stations which cannot hear each other directly as long as both can hear the retransmitting station. Should two stations happen to transmit a packet at exactly the same time on the same frequency, the packet system will automatically cause the colliding packets to be retransmitted with one station giving way to the other.

The hardware required for this magic consists of a personal computer (anything from a VIC-20 to an IBM PC), a transceiver, and a packet interface board. Several boards are available and cost in the \$150 range.

An excellent introduction to packet radio can be found in the July and August 1983 issues of HAM RADIO. There have also been numerous articles in the last two years in both QST and HAM RADIO.

de W8AJR

If it's CW, it's communications.

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~~QST~~
OFFICIAL JOURNAL

SCHEDULE OF VE TESTS FOR COLORADO

<u>DATE</u>	<u>LOCATION & OR SPONSER</u>	<u>CONTACT</u>
April 13, 1985	Pueblo ARC Pueblo, Colorado	WBØYLS
April 17, 1985	Denver Radio Club Denver, Colorado	WDØAIT
April 20, 1985	Colorado VE Team Thornton, Colorado	WØIJR
April 20, 1985	Grand Mesa Swapfest Grand Junction, Colorado	KD7EY
May 9, 1985	ARA Ham School Aurora, Colorado	KQØJ
May 18, 1985	Arapahoe ARC Littleton, Colorado	WDØAIT
June 1985	Boulder ARC Boulder, Colorado	WBØZID

Candidates for tests should fill out an FCC 610 form and attach a check or money order for \$4.00 payable to "ARRL-VEC". The 610 and fee should be sent to the Contact person 30 days in advance of a scheduled test.

.....

Reminder....it is up to the individual VE Teams as to whether or not they will accept Walk-Ins, the paperwork and size of the facility may not accomodate Walk-In Candidates. VE Teams in Colorado are requesting that Candidates register 30 days in advance of the test session for "Reserved Seats."

William "Bill" Sheffield, KQØJ
Section Manager, Colorado

SINCE 1914 - OF, BY AND FOR THE RADIO AMATEUR

Minutes for Pikes Peak Radio Amateur Association held on Feb. 13th, 1985

The meeting was called to order by President Stansberry at 7:33PM. The introductions followed with 33 members and 15 guests.

Minutes were approved as printed in Zero Beat.

Treasurer reported a balance of \$1,023.96 for February.

Committee Reports:

Swapfest: The SWAFFEST will be held at Phil Long's Prep Center, AKA Vans America on March 31st. Discussion followed about using outside vendors to sell food and pay the club for the right to do so. It will be further discussed at the board meeting. Chairs and table will cost an additional \$350 dollars. Tables for the vendors will be \$15 and for non-commercial \$10. KC7QJ will assist in acquiring door prizes from local merchants.

Mike Stansberry said the trailer needs to be painted and asked for suggestions as to where or who might be able to do it. Maybe a paint job donated in exchange for an ad on the sides of the trailer? Unresolved.

Doc reported on the Pikes Peak Hill Climb in July. All members welcome to participate in the event. This could get national coverage for the PPRAA. Many other area hams will participate also.

Oak Stockton said the CCARC meeting is on March 17th at the Aurora Hamfest. Oak is a delegate.

It was announced that Mark Stange has resigned from the board due to evening employment. There will be an announcement in the March Zero Beat of the upcoming election to fill the opening.

Sweet Adelines need ham help in their contest on Saturday and Sunday, (date of event omitted - Ed.)

A chairman is needed for the Walk for Mankind.

An appointment is set up at the Deaf and Blind School to set up a club and teach the students to be hams. More on this at a later date.

An announcement was made that the hams in Boulder are involved in an ordinance concerning radio tower and such.

Jake announced that the ARES people are trying to get antennas on the local hospitals. If anyone knows of a service group that would be willing to sponsor an antenna for less than \$100, please let Jake know.

Old Business: none

New Business: none

Program for the night: Winners of the December Homebrew Night to talk about their entries. Frank and Jake were only ones attending.

Meeting adjourned at 9:33PM.

Respectfully Submitted,
Steve KAOTRW

FM RTTY 144.435 REVERSE EMTS Command File

Message Commands	* System Commands
/ENTER -Opens Message Buffer	*/Your Call or /EMTS15 ActivatesEMTS
/END -Terminates Input	*/BYE - DE Activates EMTS
/LIST -Sends MSG Buffer	*/HELP - Sends Help File
/CANCEL -Clears MSG Buffer	*/Command - Sends This File
/SAVE -Stores MSG on Disc	*/NEWS - Sends News File
/PRINT -On Printer After Save	*/DIR - Sends Message Directory
/READX -Sends MSG #X	*/FINDXXX - Searches on XXX
/KILLX -Deletes MSG #X From Directory	*/RYS- Sends RYRYRYRYRYRY
/STOREX -Puts MSG #X Back in Direct	*/IMPORTANT= All commands must be
/RENAMEX -Change The Name of X	*/followed by a carriage return!!

MOBILE CW OPERATION WITH YAESU'S NEW FT-757-GX by Alan Higbie - AL7H CONT:

Initially I had been concerned about the potential for engine noise, etc. However, I was lucky and found that a badly needed engine tune-up had cured virtually all my noise. Occasionally there will be some engine noise which will appear sporadically - but the 757's variable noise blanker easily knocks it out. More of a problem is the QRN from powerlines running next to the highways. Once, while passing traffic on 20 CW, the line noise was so bad that I had to ask the XYL to drive down a side road to get rid of the QRN; in order to complete the QSO. That is the advantage of mobile operation: getting rid of your noise problem by driving away from it.

The receiver in the FT-757-GX is generally excellent. Before leaving Anchorage, the 757 had a few days of comparison testing next to an FT-980. The 757 cost \$725 and the 980 cost \$1700. Believe it or not, the sensitivity and the selectivity appeared to be nearly identical. Even with a simple mobile whip antenna, I've been amazed at how well the 757 hears. From the west coast I heard a ZS and 75 meters SSB. The W6's, who had beams on that band, said that he was coming in via long path. I also heard a number of Europeans on 40 meters CW via long path. The receiver does have two shortcomings. First, the receiver has a tendency to overload when the built-in pre-amp is used. This happens when signals of about S₉+20 are within +/-10 kHz. A quick remedy is to switch off the RF Amp. I usually run the RF Amp on 15 and 20 meters and take it out for the lower bands. The second shortcoming is the built-in 600 Hz CW filter. It is not sharp enough under some crowded band conditions. Steeper skirts or a sharper filter in the preceding stage would be nice. Basically, though, the selectivity is generally good for most mobile CW operation. It sounds fine on SSB as well.

CW operation is enhanced by the IF shift feature which allows you to select the beat note at which the filters peak. Another nice feature is the DIAL LOCK that disengages the photo interrupter in the tuning knob. Very handy if you want to stay on frequency while driving on bumpy roads. The tuning is in 10Hz steps - which sounds "continuous" to my ear. One full revolution of the main tuning knob carries you up or down 10 kHz. This is a great rate for mobile operations where you are apt to be jostled while you are dialing but it does mean that it takes 50 dial revolutions to traverse a 500kHz segment. One way around repeated excursions is to use the 757's memory capabilities by presetting favored frequencies in the 8 memories.

The little transceiver has two built-in VFO's (although, one tuning knob) which allows you to operate on split frequencies. For mobile CW operation this allows you the flexibility of listening on the DX station's frequency and transmitting slightly higher or lower, and thus getting your own weak signal out in the clear and away from the competition. The VFO's are reversible at the touch of a button so you can easily see if your transmit frequency is being QRM'd. Split frequency capability and the full QSK feature provide a welcome edge to the operator wishing to work mobile CW.

A word or two in order concerning the transmitter. With its broadband feature, the 757 does not require tuning except to set the output levels. I found the Hustler antenna resonators to be of understandably narrow bandwidth, especially on the low bands. Because I usually stayed in the CW segments, very little adjustment was required beyond the initial setting of the resonator lengths. The settings are easily accomplished by checking the output across the band, finding the peak and adjusting up or down from there. Output is as advertised: 100 watts. The 757 received numerous reports of good audio on SSB (generally I used the built-in processor) and excellent CW keying. Two reports of decreased weighting effect were received on CW. But, I was sending at about 35 - 40 WPM at the time. I suspect

CONTINUED ON PAGE 9

BY DON BISHOP, NDBA

BOULDER AMATEUR BARBARA MCCLUNE (NDBA) IS SPEARHEADING A DRIVE TO FORCE-STALL REGULATION OF AMATEUR ANTENNAS BY THE BOULDER COUNTY GOVERNMENT. AS PART OF THE EFFORT, SHE IS CALLING UPON ALL CITIZENS, WHETHER RESIDENTS OF THE COUNTY OR NOT, AND WHETHER LICENSED AMATEURS OR NOT, TO PARTICIPATE IN ACTIVITIES SPECIFICALLY INTENDED TO PREVENT THE REGULATION FROM BEING ENACTED.

BACKGROUND

ACCORDING TO BARBARA, THE COUNTY'S COMPREHENSIVE LAND USE PLAN IS UPDATED EVERY FIVE YEARS. THIS YEAR, THE LAND USE OFFICE ASSIGNED A PLANNER TO CREATE A "TELECOMMUNICATIONS ELEMENT" TO BE INCLUDED IN THE PLAN AS REGULATIONS WITH THE FORCE OF LAW.

BARBARA SAID A STUDY SESSION REPORT PREPARED BY THE PLANNER, TED COFFELT, EXTOLLS THE VIRTUES OF TELECOMMUNICATIONS. BECAUSE OF TELECOMMUNICATIONS' IMPORTANCE TO FUTURE ECONOMIC GROWTH IN THE PERCEIVED "INFORMATION AGE," THE PLANNER RECOMMENDS IN HIS REPORT THAT MANY TELECOMMUNICATIONS ACTIVITIES BE EXEMPTED FROM REGULATION.

ONE BY ONE, BARBARA SAID, THE FOLLOWING WERE EXEMPTED BY THE STUDY: COMMERCIAL TWO-WAY ANTENNAS, BECAUSE THEY ARE NECESSARY FOR COMMERCE; PUBLIC SAFETY (POLICE AND FIRE) ANTENNAS, BECAUSE THEY ARE IN THE PUBLIC INTEREST; AND CITIZENS BAND ANTENNAS, BECAUSE THERE ARE SO MANY OF THEM, CB RADIOS OPERATE AT LOW POWER, AND THROUGH FEDERAL DEREGULATION EVEN THE FEDERAL GOVERNMENT HAS GIVEN THE INDICATION THAT CB CANNOT SUCCESSFULLY BE REGULATED.

THAT, BARBARA SAID, LEAVES AMATEUR RADIO!

"BULK" REQUIREMENTS

BARBARA SAID THAT WHEN SHE DISCUSSED THE MATTER FURTHER WITH COFFELT, HE INDICATED THAT BECAUSE THE STUDY RULED OUT REGULATING ALL ANTENNAS EXCEPT AMATEUR RADIO ANTENNAS, THERE WAS NO NEED TO ADDRESS AMATEUR ANTENNAS SPECIFICALLY IN ANY PROPOSED REGULATION THAT MIGHT STEM FROM THE STUDY.

RATHER, BARBARA QUOTED COFFELT AS SAYING, AMATEUR ANTENNA REGULATION COULD BE INCORPORATED IN "BULK REQUIREMENTS" FOR LAND USE. WHEN SHE ASKED THE PLANNER WHAT ARE THE BULK REQUIREMENTS, BARBARA SAID SHE WAS

TOLD IT MEANT THAT AMATEUR ANTENNAS WOULD BE PERMITTED AT HEIGHTS

- (1) NO GREATER THAN THE HOUSE ON THE PROPERTY;
- (2) THAT THE ANTENNA WOULD HAVE TO CONFORM TO SETBACK REQUIREMENTS FROM PROPERTY LINES; AND
- (3) A BUILDING PERMIT WOULD BE REQUIRED BEFORE AN ANTENNA COULD BE ERECTED.

ALTHOUGH THESE ONEROUS REQUIREMENTS ONLY WOULD APPLY TO UNINCORPORATED PORTIONS OF BOULDER COUNTY INITIALLY, MAKING IT VIRTUALLY IMPOSSIBLE TO CONSTRUCT AMATEUR ANTENNAS EVEN IN HEAVILY WOODED OR SPARSELY POPULATED AREAS WHERE THE POSSIBILITY NEIGHBORS MIGHT OBJECT IS LEAST, BARBARA SAID THE ENTIRE COLORADO AMATEUR POPULATION IS AT RISK (INCLUDING THOSE IN BOULDER'S INCORPORATED AREAS) FOR THE FOLLOWING REASONS:

(1) THE MOST RESTRICTIVE LAW CAN BE APPLIED IN A GIVEN AREA; MEANING, THE COUNTY COULD EXTEND ITS REGULATION TO INCORPORATED AREAS.

(2) BARBARA SAID SHE HAS HEARD THE STUDY ALREADY HAS ATTRACTED THE ATTENTION OF OFFICIALS IN COUNTIES NEAR BOULDER WHO MAY SEEK TO ENACT SIMILAR REGULATION IF BOULDER COUNTY SUCCEEDS. SUCH REGULATION COULD SPREAD FROM BOULDER ALONG THE FRONT RANGE AND TO OTHER PARTS OF THE STATE.

(3) "GRANDFATHER" CLAUSES THAT MAY EXEMPT EXISTING AMATEUR ANTENNA INSTALLATIONS PERMIT NO MODIFICATION WHATSOEVER, REQUIRING THE ENTIRE INSTALLATION CONFORM TO THE BULK REQUIREMENTS IF AT ANY TIME A CHANGE IS MADE, E.G., ADDING A DIPOLE, MOVING A GUY WIRE, OR REPLACING A WORN ANTENNA.

COUNTERING THE THREAT

BARBARA SAID THE LAND USE OFFICE AND ITS PARENT AGENCY, THE LONG-RANGE PLANNING COMMISSION, ARE RE-

SPONSIVE TO PUBLIC INTEREST AND PROTESTS. THE AGENCY'S PROCEDURES SPECIFICALLY PROVIDE FOR THE PUBLIC TO HAVE A VOICE IN THEIR DECISIONS.

FIRST, BARBARA SAID, THE COMMISSION WILL HOLD TWO PUBLIC HEARINGS ON THE QUESTION OF WHETHER IT SHOULD ADOPT A POLICY ON TELECOMMUNICATIONS. THESE HEARINGS WILL TAKE INTO CONSIDERATION THE RECOMMENDATIONS OF THE LAND USE OFFICE AND MEMBERS OF THE PUBLIC WHO HAVE EXPRESSED THEMSELVES TO THE OFFICE BY TELEPHONE AND MAIL, BY MAIL TO THE COMMISSION, AND IN PERSON TO THE COMMISSION AT THE HEARINGS.

BARBARA HOPES THE SUPPORT OF THE AMATEUR COMMUNITY IN THESE EARLY STAGES WILL BE STRONG ENOUGH THAT THE COMMISSION WILL VOTE TO ADOPT NO POLICY, EFFECTIVELY REMOVING THE THREAT OF AMATEUR REGULATION AT THE LOCAL LEVEL.

HOWEVER, IF THE COMMISSION ADOPTS A POLICY, IT THEN WILL HOLD TWO MORE PUBLIC HEARINGS ON AN ORDINANCE THAT WILL BE DRAFTED BY THE LAND USE OFFICE. AMATEURS AND OTHERS ONCE AGAIN WILL BE ASKED TO MAKE A CASE BEFORE THE COMMISSION, THIS TIME FOR THE LEAST RESTRICTIVE REQUIREMENTS POSSIBLE. IF AN ORDINANCE OR THE BULK REQUIREMENTS ARE ADOPTED THAT PREVENT EFFECTIVE AMATEUR RADIO COMMUNICATION, THEN ACTION MAY BE BROUGHT IN THE COURTS. THE COURT ACTION, BARBARA SAID, IS TO BE AVOIDED IF AT ALL POSSIBLE BY TAKING ADVANTAGE OF PROCEDURES OPEN TO THE PUBLIC AT THE EARLY STAGES.

STEP-BY-STEP PLAN

BARBARA OUTLINED A CLEAR, STEP-BY-STEP PLAN FOR EACH CITIZEN TO FOLLOW (WHETHER LICENSED AMATEUR OR NOT, AND WHETHER BOULDER COUNTY RESIDENT OR NOT). HERE IS THE PLAN SHE HAS WORKED OUT:

(1) CALL EITHER TED COFFELT OR LAND USE OFFICE CHIEF ED TEPE (PRONOUNCED "TEPPY") AT 441-3930. ASK FOR INFORMATION ABOUT THE STUDY AND WHAT ADOPTION OF BULK REQUIREMENTS WOULD MEAN FOR AMATEUR RADIO ANTENNAS. ASK WHAT ACTION THE LAND USE OFFICE PLANS TO TAKE ABOUT JUNK CARS, TELEPHONE POLES, OR OTHER LAND USES YOU MAY WISH TO KNOW ABOUT.

(2) CALL THE OFFICE A SECOND TIME. IF THE FIRST TIME YOU SPOKE WITH TEPE, ASK TO SPEAK WITH COFFELT. IF THE FIRST TIME YOU SPOKE WITH COFFELT, ASK TO SPEAK WITH TEPE. EXPLAIN THAT YOU

YOU DO NOT THINK REGULATION OF AMATEUR ANTENNAS IS PROPER. GIVE YOUR REASONS WHY AMATEUR COMMUNICATIONS ARE IMPORTANT AND ESSENTIAL TO THE PUBLIC INTEREST, AND HOW ANTENNA RESTRICTIONS MAKE IT IMPOSSIBLE TO FULFILL THE PUBLIC NEED FOR AMATEUR COMMUNICATIONS. ALSO EXPRESS THE FACT THAT THE FEDERAL GOVERNMENT HAS PREEMPTED REGULATION OF AMATEUR RADIO, AND THAT THE COUNTY SHOULD NOT ENTER ITS OWN REGULATIONS.

DURING THE SECOND PHONE CALL, ASK TO BE "PUT ON THE MAILING LIST FOR CURRENT MATERIALS PERTAINING TO THE ISSUE, AND FOR ALL FUTURE MATERIALS THAT BECOME AVAILABLE."

(3) WRITE A LETTER TO THE BOULDER COUNTY LAND USE DEPT., P.O. BOX 471, BOULDER, CO 80306. WRITE IN THE LETTER WHAT YOU SAID IN YOUR SECOND PHONE CALL.

(4) SEND A COPY OF YOUR LETTER TO CHAIRMAN RICHARD ERKEN, BOULDER COUNTY PLANNING COMMISSION, 1193 OLD TAIL ROAD, BOULDER, CO 80303.

THE PUBLIC'S EFFECT

BARBARA SAID THAT, IF THE LAND USE OFFICE AND THE PLANNING COMMISSION RECEIVE OVERWHELMING OPINION ON ONE SIDE OF THIS ISSUE, THEY ARE NOT LIKELY TO ADOPT A POLICY CONTRARY TO TAXPAYERS' WISHES. IF THE LAND USE OFFICE IS TIED UP ON THE TELEPHONE ANSWERING GENUINE INQUIRIES FOLLOWED BY THE SECOND PHONE CALLS EXPRESSING OPINIONS, THEY ARE NOT LIKELY TO RECOMMEND THE PLANNING COMMISSION ADOPT A POLICY.

A REQUEST FOR "ANY FUTURE MATERIALS THAT BECOME AVAILABLE" PUTS AN INDIVIDUAL ON THE MAILING LIST TO RECEIVE COPIES OF ALL LETTERS RECEIVED ON THE SUBJECT. BARBARA SAID THAT IF 800 PEOPLE CALL TO BE PUT ON THE LIST FOR CURRENT AND FUTURE MATERIAL, AND 800 WRITE LETTERS, THE OFFICE WILL BE FACED WITH THE TREMENDOUS TASK OF MAILING 64,000 COPIES OF LETTERS!

EARLY SUPPORT IS BEST

MAKE PHONE CALLS AND WRITE LETTERS AS SOON AS POSSIBLE, BARBARA SAID, BECAUSE EARLY PROTEST IS THE MOST EFFECTIVE. COLORADO AMATEURS SHOULD NOT LET THIS OPPORTUNITY TO EXPRESS THE NEED FOR UNRESTRICTED AMATEUR RADIO COMMUNICATIONS SLIP BY, BECAUSE SUCH REGULATION MIGHT ONE DAY EXTEND TO ALL COUNTIES. A

the problem disappears at the lower speeds (15 - 20 WPM) more often used when operating mobile.

This little transceiver, with all of its features, is the most exciting rig I have encountered in my 25 years as an active ham (I don't make that statement lightly). My other rigs have been or are: TS-820S, TS-830S and a Drake R4C receiver. I also have used the FT-980, FT-107, Signal One, and the TS-430. I cannot think of anything not already mentioned that I'd do to improve it....you can't make it any smaller because then your fingers would be too big, etc.

A comprehensive and more technical review of the FT-757-GX appeared in the December, 1984 QST. Of special interest to computer enthusiasts would be the computer interface capabilities of the FT-757.

Alan Higbie - AL7H/Q

The next regularly scheduled meeting of the Pikes Peak Amateur Radio Association will be at Giuseppe's Depot at 310 S. Sierra St. at 7:30 PM on Wednesday, the 13th of March. The program will be on Contesting and given by Bob Forier, KQ0J and Tom Weatherly, AD0D. There will also be an election to elect TWO new board members. One to replace Mark Stange who had to resign last meeting and one to replace Al Vrooman who resigned at the last board meeting. Tom, AD0D and Malcolm, KE9S had agreed to run, but then Malcolm called Ye Old Editor to say he could not. It seems that Packet Radio has gotten to be such a growing thing that all his time is going in to getting a statewide system up. Good luck, Malcolm.

1985 ARA HAMFEST & ARRL COLORADO STATE CONVENTION

Sponsored by the Aurora Repeater
Association

Sunday, march 17, 1985 8AM - 4PM

Colorado Nat'l Guard Armory

55 S. Potomac St., Aurora, CO.

(1 blk west of I-225 between 6th
and Alameda)

Admission \$1 per person (under 12
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SWAP TABLES \$5 each (all sellers
enter rear door) DEALERS WELCOME!

FOOD served all day.

SEMINARS

HOURLY PRIZE DRAWINGS!!

SCHEDULE OF ACTIVITIES

9AM - V.E. TEST SESSION

9AM - ARES/NTS meeting

A.M. ARRL Forum

1PM - 3PM CCARC Meeting

P.M. RMPRA Meeting

Winner need not be present to win
the GRAND prize.

FOR MORE HEMFEST INFO CONTACT:

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Ed Danforth - (already upgraded to
technician in Pueblo)

Hugh Metcalf - waiting for call

Don DePierre - waiting for call

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TAB BOOKS

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This program is written for the IBM PC. To switch to 5% Resistors, change the following:

Line 16: $RX*.9$ should read $RX*.95$

Line 14: Change the value of "84" to the number in the data statements.

Lines 7 - 13: Change the data statements to the values of the 5% resistors.

```
1 PRINT "PROGRAM TO DETERMINE PARALLEL RESISTORS"
2 PRINT "ENTER VALUES IN OHMS, NOT K-OHMS OR M-OHMS. USE NO COMMAS!"
3 PRINT :INPUT "VALUE OF ORIGINAL RESISTOR"; R
4 INPUT "VALUE OF EFFECTIVE RESISTANCE"; RE
5 IF RE>=R GOTO 22
6  $RX=1/(1/RE-1/R)$ 
7 DATA 1,1.2,1.5,1.8,2.2,2.7,3.3,3.9,4.7,5.6,6.8,8.2
8 DATA 10,12,15,18,22,27,33,39,47,56,68,82
9 DATA 100,120,150,180,220,270,330,390,470,560,660,820
10 DATA 1000,1200,1500,1800,2200,2700,3300,3900,4700,5600,6600,8200
11 DATA 10000,12000,15000,18000,22000,27000,33000,39000,47000,56000,
    66000,82000
12 DATA 100000,120000,150000,180000,220000,270000,330000,390000,470000,
    560000,660000,820000
13 DATA 1000000,1200000,1500000,1800000,2200000,2700000,3300000,3900000,4700000,
    5600000,6600000,8200000
14 DATA FOR X=1 TO 84
15 READ F
16 IF  $RX*.9<=F$  THEN  $Y=F$ :GOTO 18
17 NEXT
18 PRINT "USE";Y;"OHM RESISTOR IN PARALLEL WITH ORIGINAL RESISTOR OF";
    R;"OHMS FOR EFFECTIVE RESISTANCE OF";RE;"OHMS."
19  $Q=1/((1/R+1/Y):E=(Q/RE*100)-100:E=INT(E*10+.5)/10$ 
20 PRINT USING "ERROR IS ### PERCENT. ";E;:GOTO 25
21 END
22 PRINT "EFFECTIVE VALUE OF 2 PARALLEL RESISTORS IS LESS THAN VALUE
    OF EITHER."
23 PRINT "CHOSEN VALUE FOR EFFECTIVE RESISTANCE MUST BE LESS THAN THE
    VALUE OF ORIGINAL RESISTOR."
24 PRINT :GOTO 3
25 PRINT :INPUT "CALCULATE MORE VALUES? (Y/N)";ANS$
26 IF ANS$="Y" THEN 3 ELSE END
```

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